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Field Crops
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# Varietal Description of Miranda Field Pea

## Origin and breeding

Miranda field pea, tested as Cebeco 402, was deveoped by Cebeco Zanden B.V., the Netherlands, from the cross Allround x Cebeco 61.207 made in 1969. Single plant selections were made in the $F_5$ generation. This material was selected for higher yield, cotyledon color and lodging and disease resistance. There were three years of line selection followed by a small multiplication of several lines. One line was chosen to produce breeder seed of Miranda. This variety previously held an interim registration (I-84) from April 3, 1989 to March 28, 1990.

## Varietal characteristics

**Plant characteristics**

Growth habit: determinate; upright

Vines: short; medium stockiness; medium to strong branching; zig-zag internodes; around 21 internodes; upright

Leaflets: medium green; medium to strong waxy bloom; first, two leaflet pairs, later three leaflet pairs

Stipule: present; clasping; marbled; medium green

Flowers: white standard; white wings; white keel with green venation; straight to slightly curved standard base

Flowering: 13 nodes to first flower; earlier than Tipu

Pods: straight and blunt; medium green; smooth and dull; borne, two pods; 6.8 cm length; 1.4 cm width; 6.3 seeds per pod

Plant height: 66 cm

Disease resistance: Miranda is moderately resistant to top yellows and downy mildew (*Peronospora viciae*) and is immune to Fusarium race 1 (near wilt) *Fusarium oxysporum f. pisi*); susceptible to powdery mildew (*Erysiphe polygani*) and to Ascochyta blight (*Myrosphaerella pinodes*).

**Seed characteristics**

Hilum: white

Cotyledon: yellow

Seed color: yellowish-light green (yellow dry)

Seed shape: rounded

Seed surface: smooth

1000 seed weight: 365 g

Protein content: 24.5%

## Performance

Miranda yields well under good soil moisture conditions but has very short stature under dry conditions. It is large seeded and early maturing. Miranda is adapted to the northern growing areas of Alberta.

**Maintenance of breeder seed**

Cebeco Zaden B.V., the Netherlands

**Canadian distributor**

Manitoba Pool Elevators

**Recommended by**

Prairie Registration Recommending Committee on Grain

**Copies of this and related publications may be obtained from the Print Media Branch, Alberta Agriculture, 7000 - 113 Street, Edmonton, Alberta T6H 5T6 or Alberta Agriculture's District Offices.**

**Table 1. Comparative performance[a] of Miranda and check varieties, Field Pea Co-operative Tests, 1987-1989**

| Characteristics | Location Years | Miranda | Century | Express | Titan |
|---|---|---|---|---|---|
| Yield (kg/ha) | 29 | 2380 | 2240 | 2670 | 2390 |
| 1000 Seed Weight (g) | 28 | 318 | 222 | 221 | 241 |
| Days to Maturity | 16 | 88 | 95 | 90 | 95 |
| Vine Length (cm) | 20 | 46 | 108 | 57 | 107 |
| Seed Protein (%) | 23 | 23.2 | 25.1 | 24.4 | 24.1 |
| Cooking Quality[b] | | | | | |
| Color | 18 | 2.4 | 3.1 | 2.9 | 3.0 |
| Granulation | 18 | 2.5 | 3.0 | 3.2 | 3.4 |
| Viscosity | 18 | 10.7 | 18.2 | 16.6 | 18.2 |
| Disease Rating | | | | | |
| Ascochyta Blight[c] | 2 | 7.5 | 7.2 | 6.6 | 6.7 |
| Powdery Mildew[d] | 3 | S | MS-S | S | MS-S |

[a]This table does not include data from irrigated locations.

[b]Color and granulation were subjectively evaluated on a scale of 1-5, where 1 = very good, 2 = good, 3 = average, 4 = fair and 5 = poor; a scale of 1-24 was used for viscosity, where 1 = high and 24 = low.

[c]Ascochyta (*Mycosphaerella* sp.) blight disease assessments were made by estimating the percent area infected and transposing to a 1-9 scale, where 1 = no infection and 9 = 100 percent of leaf area infected.

[d]Powdery mildew ratings took into account the severity of infection on both the leaves and the stems; S = susceptible, MS = moderately susceptible, MS-S = the rating varied between S and MS during the three years of testing.

**Table 2. Agronomic and cooking performance data[a] of Miranda and check varieties, Field Pea Co-operative Tests, 1987-1989**

| Characteristics | 1987 | 1988 | 1989 | Mean |
|---|---|---|---|---|
| Yield (kg/ha) | (11)[b] | (8) | (10) | (29) |
| Miranda | 2010 | 2600 | 2610 | 2380 |
| Century | 2250 | 2470 | 2050 | 2240 |
| Express | 2460 | 3030 | 2620 | 2670 |
| Titan | 2350 | 2560 | 2300 | 2390 |
| 1000 Seed Weight (g) | (11) | (8) | (9) | (28) |
| Miranda | 324 | 326 | 302 | 318 |
| Century | 220 | 229 | 217 | 222 |
| Express | 225 | 224 | 213 | 221 |
| Titan | 244 | 244 | 231 | 241 |
| Days to Maturity | (8) | (4) | (4) | (16) |
| Miranda | 91 | 86 | 83 | 88 |
| Century | 101 | 90 | 90 | 95 |
| Express | 95 | 87 | 84 | 90 |
| Titan | 100 | 92 | 89 | 95 |
| Vine Length (cm) | (9) | (4) | (7) | (20) |
| Miranda | 44 | 38 | 52 | 46 |
| Century | 125 | 81 | 101 | 108 |
| Express | 57 | 50 | 60 | 57 |
| Titan | 118 | 87 | 104 | 107 |
| Seed Protein (%) | (10) | (7) | (6) | (23) |
| Miranda | 22.5 | 23.7 | 23.7 | 23.2 |
| Century | 23.9 | 24.6 | 27.8 | 25.1 |
| Express | 23.2 | 24.1 | 26.5 | 24.4 |
| Titan | 23.0 | 24.2 | 25.9 | 24.1 |
| Cooking Quality (color) | (8) | (6) | (4) | (18) |
| Miranda | 2.6 | 2.2 | 2.5 | 2.4 |
| Century | 3.0 | 2.7 | 3.7 | 3.1 |
| Express | 2.6 | 3.0 | 3.4 | 2.9 |
| Titan | 2.9 | 3.1 | 3.1 | 3.0 |
| Granulation (1-5) | (8) | (6) | (4) | (18) |
| Miranda | 2.4 | 2.7 | 2.3 | 2.5 |
| Century | 3.0 | 2.8 | 3.4 | 3.0 |
| Express | 2.6 | 3.4 | 3.4 | 3.2 |
| Titan | 3.3 | 3.5 | 3.4 | 3.4 |
| Viscosity (1-24) | (8) | (6) | (4) | (18) |
| Miranda | 9.2 | 11.3 | 12.8 | 10.7 |
| Century | 18.0 | 14.8 | 23.9 | 18.2 |
| Express | 12.4 | 18.8 | 21.8 | 16.6 |
| Titan | 16.0 | 18.4 | 22.6 | 18.2 |

[a] This table does not include data from irrigated locations.

[b] Location-years: see Table 3 for actual locations.

**Table 3. Yield (kg/ha) of Miranda and check varieties, Field Pea Co-operative Tests, 1987-1989.**

| Location | 1987 | | | | 1988 | | | | 1989 | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | Miranda | Century | Express | Titan | Miranda | Century | Express | Titan | Miranda | Century | Express | Titan |
| Brandon | 2060 | 3040 | 2350 | 2770 | — | — | — | — | — | — | — | — |
| Morden | 1200 | 1310 | 1410 | 1620 | 1060 | 940 | 1330 | 1050 | 2090 | 1580 | 1980 | 1890 |
| Portage La Prairie | 2780 | 1600 | 2410 | 2100 | 1450 | 1540 | 1260 | 1450 | 3030 | 2560 | 3280 | 3040 |
| Carrot River | 1870 | 1400 | 2410 | 1680 | 1270 | 1400 | 1720 | 1520 | — | — | — | — |
| Indian Head | 2870 | 3430 | 3740 | 3620 | — | — | — | — | — | — | — | — |
| Melfort | 1140 | 1850 | 1796 | 1580 | — | — | — | — | 1710 | 1340 | 1810 | 1620 |
| Regina | 1180 | 2060 | 1950 | 2260 | — | — | — | — | 1140 | 980 | 1100 | 1060 |
| Saskatoon | — | — | — | — | — | — | — | — | 600 | 850 | 870 | 1004 |
| Calmar | — | — | — | — | 4760 | 3840 | 5710 | 4220 | 5180 | 2180 | 3520 | 2640 |
| Camrose | 1460 | 1970 | 2030 | 2020 | — | — | — | — | — | — | — | — |
| Scott | 1480 | 1880 | 2450 | 1970 | — | — | — | — | — | — | — | — |
| Stettler | — | — | — | — | 3300 | 3230 | 3480 | 3260 | 5220 | 4090 | 4710 | 4030 |
| Vermilion | — | — | — | — | 4360 | 3630 | 5280 | 3830 | — | — | — | — |
| Fort Vermilion | — | — | — | — | 2170 | 2430 | 2640 | 2260 | 1350 | 1600 | 1720 | 1480 |
| Olds | — | — | — | — | — | — | — | — | 3404 | 2150 | 3510 | 2140 |
| Western Mean (non-irrigated) | 1780 | 2060 | 2280 | 2180 | 2600 | 2470 | 3060 | 2510 | 2640 | 1930 | 2500 | 2100 |
| Outlook (irrigated) | — | — | — | — | 2760 | 2830 | 3200 | 2830 | 3490 | 3190 | 3030 | 5000 |
| Bow Island (irrig.) | — | — | — | — | — | — | — | — | 2780 | 3230 | 3660 | 3150 |
| Brooks (irrigated) | 3340 | 3190 | 3010 | 3020 | 3300 | 2510 | 3100 | 2860 | 3340 | 2980 | 3430 | 3000 |
| Lethbridge (irrig.) | — | — | — | — | — | — | — | — | 1970 | 2330 | 2060 | 2100 |
| Irrigated Mean | 3340 | 3190 | 3010 | 3020 | 3000 | 2670 | 3150 | 2850 | 2610 | 2930 | 3040 | 3310 |
| La Pocatiere | 3790 | 3060 | 3690 | 2950 | — | — | — | — | — | — | — | — |
| New Liskeard | 2320 | 3150 | 2800 | 3360 | 2450 | 2770 | 2180 | 2860 | 2350 | 3180 | 3660 | 4140 |
| Eastern Mean | 3060 | 3100 | 3250 | 3150 | 2450 | 2770 | 2810 | 2860 | 2350 | 3180 | 3660 | 4140 |
| Overall Mean | 2120 | 2330 | 2500 | 2370 | 2690 | 2510 | 3050 | 2610 | 2610 | 2300 | 2748 | 2590 |
| Location Years | | | (12) | | | (10) | | | (14) | (14) | (14) | (14) |

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